

WHAT IS CLAIMED IS:

1. A machine readable medium on which utility program started up in a linked manner by an application program capable of giving a print command to an image forming apparatus connected to a network is recorded,

said utility program comprising:

a display step displaying locations of image forming apparatuses connected to said network on a display means; and

a select step selecting an image forming apparatus designated by user as an output destination of an image.

2. A machine readable medium according to claim 1, wherein said display step further includes a sub-step of displaying information indicating whether or not each of said image forming apparatuses connected to said network is usable on said display means.

3. A machine readable medium according to claim 1, wherein said display step further includes a sub-step of displaying a map of said network and symbolic marks each representing one of said image forming apparatuses at installation locations of said image forming apparatuses on said map on

said display means.

4. A machine readable medium according to claim 3, wherein said select step further includes a sub-step selecting one of said image forming apparatuses represented by one of said symbolic marks as an output destination of an image.

5. A machine readable medium according to claim 3, wherein said display step further includes a sub-step displaying information indicating whether or not each of said image forming apparatuses is usable at a location in close proximity to one of said symbolic marks representing said image forming apparatus on said display means.

6. A machine readable medium according to claim 1, wherein said display step further includes a sub-step being executed in response to said print command given by said application program.

7. A machine readable medium according to claim 1, wherein said display step further includes a sub-step displaying characters describing the name of each of said image forming apparatuses and characters describing a location at which each of said image forming apparatuses is installed on said

sub
con → display means.

8. A machine readable medium on which application program capable of giving a print command to an image forming apparatus connected to a network is recorded,

said application program comprises:

a display step displaying locations at which image forming apparatuses connected to said network are installed on a display means; and

a select step selecting one of said image forming apparatuses selected by user as an output destination of an image.

9. A machine readable medium on which program for selecting a desired input-output apparatus from a plurality of input-output apparatuses connected to a network is recorded,

said program comprises:

a first display step classifying said input-output apparatuses into a plurality of categories with different functions and displaying said functions on a display means as items of selection; and

a second display step of displaying only said input-output apparatuses having one of said functions

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representing said input-output apparatus on said display means.

14. A machine readable medium on which program for selecting a desired input-output apparatus from a plurality of input-output apparatuses connected to a network is recorded,

said program comprises:

a first display step classifying said input-output apparatuses into a plurality of categories with different pieces of user identification information and displaying said pieces of user identification information on a display means as items of selection; and

a second display step of displaying only said input-output apparatuses having one of said pieces of user identification information selected by user on said display means as items of selection.

15. A machine readable medium according to claim 14, wherein said second display step further includes a sub-step displaying information indicating whether or not each of said input-output apparatuses is usable on said display means.

16. A machine readable medium according to claim 14, wherein said second display step further includes a sub-step of displaying a map of said network and symbolic marks of said input-output apparatuses at installation locations of said input-output apparatuses over said map on said display means.

17. A machine readable medium according to claim 16, wherein said program further includes a step setting one of said input-output apparatuses represented by one of said symbolic marks selected by user as an apparatus to be used.

18. A machine readable medium according to claim 16, wherein said second display step further includes a sub-step displaying information indicating whether or not each of said input-output apparatuses is usable at a location in close proximity to one of said symbolic marks representing said input-output apparatus on said display means.

19. A machine readable medium on which program for selecting a desired image forming apparatus from a plurality of image forming apparatuses connected to a network is recorded,

a select step selecting one of said image forming apparatuses designated by the user as an output destination;

a judgment step judging whether or not said image forming apparatus set at said select step is capable of carrying out printing; and

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20. A machine readable medium according to claim 19, wherein said display step further includes a sub-step of displaying a map of said network and symbolic marks of said image forming apparatuses at installation locations of said image forming apparatuses over said map on said display means.

21. A machine readable medium according to claim 20,
wherein said program further includes a step setting an

image forming apparatus represented by one of said symbolic marks selected by the user as an apparatus to be used.

22. A machine readable medium according to claim 19, wherein said display step further includes a sub-step of displaying characters describing the name of each of said image forming apparatuses and characters describing a location at which each of said image forming apparatuses is installed on said display means.

23. An output apparatus selecting method to be adopted in a network system to which a plurality of image forming apparatuses and a plurality of computers are connected,

said output apparatus selecting method comprising:

a first step displaying locations where said image forming apparatuses are installed on a display means of one of said computers in response to an output command issued by an application program running on said computer;

a second step pointing to one of said installation locations of said image forming apparatuses displayed on said display means at said first step; and

a third step specifying said image forming apparatus at said installation location on said display means pointed to at said second step as an output destination of images.

24. An output apparatus selecting method to be adopted in a network system according to claim 23, wherein said first step is interlocked with a print command issued by an application program running on said computer.

25. An input-output apparatus selecting method for selecting a desired input-output apparatus from a plurality of input-output apparatuses connected to a network system, said input-output apparatus selecting method comprising:

a step classifying said input-output apparatuses connected to said network system into a plurality of categories with different functions and displaying said functions on a display means as items of selection; and

a step displaying only said input-output apparatuses having one of said functions selected by the user on said display means as items of selection.

26. An input-output apparatus selecting method for selecting a desired input-output apparatus from a plurality of input-output apparatuses connected to a network system wherein said apparatuses are cataloged by classifying said apparatuses into groups identified by user identification

codes,

said input-output apparatus selecting method comprising:

a step displaying said user identification codes on a display means as items of selection; and

a step displaying only said input-output apparatuses cataloged in one of said groups identified by one of said user identification codes selected by the user on said display means as items of selection.

27. An image forming apparatus selecting method for selecting a desired image forming apparatus from a plurality of image forming apparatuses connected to a network system,

said image forming apparatus selecting method comprising:

a select step setting one of said image forming apparatuses selected by the user as an output destination;

a judgment step forming a judgment as to whether or not said image forming apparatus set at said select step is capable of carrying out printing; and

a display step displaying installation locations of said image forming apparatuses which are capable of carrying out printing to serve as a substitute for said image

forming apparatus set at said select step on a display means in case an outcome of said judgment formed at said judgment step indicates that said image forming apparatus set at said select step is not capable of carrying out printing.

28. A machine readable medium on which program for selecting an input-output apparatus from a plurality of input-output apparatuses connected to a network is recorded

said program comprises:

a layout diagram displaying step displaying a layout diagram of a room on a display means;

an icon displaying step displaying icons each representing one of said input-output apparatuses at locations corresponding to actual installation locations of said input-output apparatuses in said room as items of selection over said layout diagram displayed on said display means at said layout diagram displaying step; and

an input-output selecting step selecting one of said input-output apparatuses represented by an icon selected from said icons displayed at said icon displaying step.

29. A machine readable medium according to claim 28, wherein said icon displaying step further includes a sub-step displaying status of each of said input-output

apparatuses at a location in close proximity to one of said icons representing said input-output apparatus on said display means.

30. A machine readable medium according to claim 28, wherein said layout diagram is received from another one of said input-output apparatuses through said network.

31. A machine readable medium according to claim 28, wherein said layout diagram comprises a plurality of layout diagrams organized as layers at different levels composing a hierarchical structure.

32. A network system connecting a plurality of computers and a plurality of input-output apparatuses,

said network system comprising:

a layout image storage means for storing a layout image representing a layout of said input-output apparatuses;

an apparatus information table storage means for storing an apparatus information table for cataloging information on said input-output apparatuses;

a display means for displaying said layout image; and

an input-output apparatus specifying means for displaying icons each representing one of said input-output

apparatuses at locations corresponding to actual installation locations of said input-output apparatuses over said layout image displayed on said display means as items of selection and selecting one of said input-output apparatuses represented by an icon selected from said icons as an input-output destination.

33. A machine readable medium on which program written for a network system to which a plurality of input-output apparatuses and a plurality of computers are connected is recorded,

said program comprises:

a first step classifying said input-output apparatuses into a plurality of categories having different functions and displaying said functions on a display means as items of selection;

a second step displaying only said input-output apparatuses pertaining to one of said categories having a function selected from said functions displayed at said first step on said display means as items of selection; and

a third step specifying an input-output apparatus selected from said input-output apparatuses displayed at said second step as an input-output destination.

34. A machine readable medium according to claim 33, wherein said program further comprises:

a step displaying a layout image representing locations of said input-output apparatuses on said display means;

a step displaying icons each representing one of said input-output apparatuses at locations corresponding to actual installation locations of said input-output apparatuses over said layout image displayed on said display means as items of selection; and

a step selecting one of said input-output apparatuses represented by an icon selected from said icons as an input-output destination.

35. A machine readable medium according to claim 33, wherein said program further comprises:

a step creating a plurality of images or tables each showing installation locations of said input-output apparatuses on layers of different levels forming a hierarchical structure and storing said hierarchical structure;

a step displaying a high level image or a high level table on one of said layers at a high level in said hierarchical structure wherein said high level image or

said high level table shows items of selection; and

Q5 ✓ a step displaying a low level image or a low level table on another one of said layers at a level immediately lower than said high level in said hierarchical structure wherein said low level image or said low level table is determined by an item selected from said items of selection shown in said high level image or said high level table.

36. A network system connecting a plurality of computers and a plurality of input-output apparatuses, said network system comprising:

a function information table for storing pieces of function information on said input-output apparatuses;

a function information table storage unit for storing said function information table;

an apparatus displaying means for displaying only said input-output apparatuses having a piece of function information selected from said pieces of function information;

an apparatus selecting means for selecting one of said input-output apparatuses displayed by said apparatus displaying means; and

an apparatus specifying means for specifying said input-output apparatus selected by said apparatus

selecting means as an input-output destination.

37. An input-output apparatus specifying method to be adopted in a network system for connecting a plurality of computers and a plurality of input-output apparatuses, said input-output apparatus specifying method comprising:

a function displaying step classifying said input-output apparatuses into a plurality of categories with different functions and displaying said functions on a display means as items of selection;

an apparatus displaying step displaying only said input-output apparatuses having a function selected from said functions displayed at said function displaying step on said display means as items of selection; and

an apparatus specifying means selecting a desired one of said input-output apparatuses displayed at said apparatus displaying step and specifying said selected input-output apparatus as an input-output destination.

38. A machine readable medium on which program for a network system connecting a plurality of computers and a plurality of input-output apparatuses is recorded

said program comprises:

a user name displaying step displaying the names of

users regularly using said network system as items of selection;

a user name selecting step selecting one of said names displayed at said user name displaying step;

an input-output apparatus displaying step displaying only said input-output apparatuses associated with one of said users with the name thereof selected at said user name selecting step as items of selection; and

an input-output apparatus selecting step selecting a desired one of said input-output apparatuses displayed at said input-output apparatus displaying step as an input-output destination.

39. A machine readable medium according to claim 38, wherein said user name displaying step further includes a sub-step of displaying the names of said users on a layout diagram along with icons each representing one of said input-output apparatuses.

40. A machine readable medium according to claim 38, said program further includes:

a step creating a plurality of images or tables each showing installation locations of said input-output apparatuses on layers at different levels forming a

hierarchical structure;

a step displaying a high level image or a high level table on one of said layers at a high level in said hierarchical structure wherein said high level image or said high level table shows items of selection; and

a step displaying a low level image or a low level table on another one of said layers at a level immediately lower than said high level in said hierarchical structure wherein said low level image or said low level table is determined by an item selected from said items of selection shown in said high level image or said high level table.

41. An input-output apparatus specifying method to be adopted in a network system for connecting a plurality of computers and a plurality of input-output apparatuses, said input-output apparatus specifying method comprising:

a user name displaying step displaying the names of users regularly using said network system as items of selection;

a user name selecting step selecting one of said names displayed at said user name displaying step;

an input-output apparatus displaying step displaying only said input-output apparatuses associated with one of said users with the name thereof selected at said user name

selecting step as items of selection; and

an input-output apparatus selecting step selecting a desired one of said input-output apparatuses displayed at said input-output apparatus displaying step as an input-output destination.

42. A machine readable medium on which program written for a copying machine connected to a network is recorded,

said program comprises:

a display step displaying output apparatuses each capable of executing some or all of functions of said copying machine on a display means as items of selection in case said functions are found inadequate for carrying out a copy job by said copying machine alone; and

a specification step specifying an output apparatus selected from said output apparatuses displayed at said display step as a substitute apparatus to serve as an output destination.

43. A machine readable medium according to claim 42, wherein said program further includes a step of allocating a part of a load of a requested job to said substitute apparatus in case said requested job exceeds an upper limit of said functions of said copying machine.

44. A machine readable medium according to claim 42, wherein said program further includes a step allocating a part of a load of a requested job to said substitute apparatus in case it takes a longer time to execute said requested job by using said copying machine alone than a predetermined value.

45. A machine readable medium according to claim 42, wherein said program further includes:

a layout image displaying step displaying a layout image showing locations of said output apparatuses on said display means;

an icon displaying step displaying icons each representing one of said output apparatuses over said layout image at locations on said display means corresponding to actual installation locations of said output apparatuses as items of selection;

an icon distinguishing step distinguishing an icon selected from said icons from the rest; and

an apparatus specifying step specifying one of said output apparatuses represented by said selected icon as an output destination.

46. A machine readable medium according to claim 45, wherein said program further includes a step allocating a part of a load of a requested job to said substitute apparatus in case said requested job exceeds an upper limit of said functions of said copying machine.

47. A machine readable medium according to claim 45, wherein said program further includes a step allocating a part of a load of a requested job to said substitute apparatus in case it takes a longer time to execute said requested job by using said copying machine alone than a predetermined value.

48. A machine readable medium according to claim 45, wherein said program further includes:

a display step displaying all output apparatuses each capable of serving as an output substitute for said copying machine on said display means as items of selection; and

a select step selecting one of said output apparatuses located in closest proximity to said copying machine.

49. A machine readable medium according to claim 48, wherein said program further includes a step allocating a part of a load of a requested job to said substitute

apparatus in case said requested job exceeds an upper limit of said functions of said copying machine.

50. A machine readable medium according to claim 48, wherein said program further includes a step allocating a part of a load of a requested job to said substitute apparatus in case it takes a longer time to execute said requested job by using said copying machine alone than a predetermined value.

51. A machine readable medium according to claim 48, wherein said program further includes a step allowing the user to select another one of said output apparatuses used to replace one of said output apparatuses once selected by said copying machine.

52. A machine readable medium according to claim 51, wherein said program further includes a step allocating a part of a load of a requested job to said substitute apparatus in case said requested job exceeds an upper limit of said functions of said copying machine.

53. A machine readable medium according to claim 51, wherein said program further includes a step allocating a

part of a load of a requested job to said substitute apparatus in case it takes a longer time to execute said requested job by using said copying machine alone than a predetermined value.

54. A copying machine connected to a network, said copying machine comprising:

an apparatus information table storage means for storing an apparatus information table for cataloging information on output apparatuses each capable of serving as a substitute for functions of said copying machine;

a display means for displaying said output apparatuses; and

a data transferring means for displaying said output apparatuses each capable of executing some or all of said functions of said copying machine on said display means as items of selection in case said functions are found inadequate for carrying out a copy job by said copying machine alone and for transferring data of said copy job to one of said displayed output apparatuses selected as a substitute output apparatus to serve as an output destination.

55. A method for specifying an output apparatus as a

substitute for a copying machine connected to a network,
said method comprising:

a step cataloging information on output apparatuses
each capable of serving as a substitute for functions of
said copying machine;

a step displaying said output apparatuses capable of
executing some or all of said functions of said copying
machine on a display means as items of selection in case
said functions are found inadequate for carrying out a copy
job by said copying machine alone; and

a step transferring data of said copy job to one of
said displayed output apparatuses selected as a substitute
output apparatus to serve as an output destination.

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